



## Removing the Boundaries: open access journal publishing as an innovation in technology

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Scholarly communication is the sum of the creation, transformation, dissemination and preservation of knowledge created in relation to teaching research and scholarly endeavors (Harris and Ho, 2015). The particulars of scholarly communication have been in flux for as long as people have been engaged in science and recording scientific progress.

As co-editors of *PNLA Quarterly*, Jan Zauha and I bring our skills as librarians to the publishing process. As the Scholarly Communication Librarian at Montana State University (MSU), I am an advocate for open access, I manage our institutional repository and other publishing software, and am a point person for copyright consultation on campus. Jan, as the Outreach Librarian at MSU's Renne library is a more traditionally subject-focused librarian with extensive Pacific Northwest Library Association (PNLA) experience and a background in leadership training and reading promotion. We hope that these qualities position us to making meaningful contributions to the journal and the association.

As we began our work on the *Quarterly* we spent time thinking about what publishing a journal means, why we work to present information in this way. Since the European development of the printing press by Johannes Gutenberg in 1440 western culture has had a useful and reliable way to disseminate information. In the early days of printed research, letters were printed and reprinted, sent around and recopied, multiplying as more people were interested in reading them. Over the next 200 years the number of letters proliferated until there were too many to read. In 1665, the world's first scientific journal was published by Henry Oldenburg (<http://rstl.royalsocietypublishing.org/>). The first issue of *Philosophical Transactions* was effectively letters bound together into a journal. After WWII, the proliferation of journals encouraged the development of metrics. Measures like impact factor, became important means of differentiating among the sea of titles in the 1960s (Garfield, 2005). The number and specialization of journals has been growing ever since.

When the internet became a common research tool in the 1990s, journal publishers caught on to its distribution possibilities, but merely placed the large files of entire issues online (Harter, 1998). While this was a great advancement for access, it did not take advantage of the possibilities of digital formats. Recent advances in search technology have made it possible for individual articles to be easily found outside their journal container, in effect returning us to the distribution model of the "letters" of 500 years ago (with more broad access possibilities).

What does this mean in practical terms? For one thing, it means that digital editions of journals should not be left as whole volumes in a single .pdf file and with little description. In order for search engines (and thus potential readers) to discover articles, there must be machine readable metadata attached to each article (Suber, 2012 p 55, Carpenter, 2013). In this interest, and with a few other innovations in mind, we are working to bring *PNLA Quarterly* in line with the progress of journals in the internet age. This will increase our capacity to communicate the ideas, research, and projects that librarians are engag-

ing with in the region. As well-cataloged digital content helps library patrons locate and access materials quickly, well-applied metadata will help our readers and potential readers find the information they are looking for as they search the Web. This will help increase the scope of our readership and continue *PNLA Quarterly's* relevance in the digital age.

Another factor that limits access to relevant and current research is the rising cost of journal subscriptions (Lambert, 2014). The proliferation of journal titles has been accompanied by a consolidation of academic journal publishers and a decrease or stagnation in most library budgets. One beneficial aspect of digital editions of journal articles is that it costs the same amount to produce one copy and make it available to one reader in a digital format as it costs to make that copy available to one million readers using the distribution channel that the internet has made available (Suber, 2012). The cost of publishing articles may not have changed drastically, but the cost of accessing those articles has. This change in the overall cost of producing and distributing multiple copies of scholarship has allowed for the growth of the open access movement. Open access refers to access that is not restricted by price or constrained by licensing that limits reuse. Although there are many definitions of this term and many people are trying to figure out the best way to make access sustainable for readers and subscribing institutions, most agree that broad access to the knowledge produced at public institutions is a common good that is worth working toward.

*PNLA Quarterly's* publishing history since its inception in 1936 is no different than that of many other journals. As a print edition the journal was a key tool for communication between far flung libraries in rural western towns. PNLA members used the publication to disseminate information about the minutia of librarianship: the number of pencils or chairs or other seemingly small items might be what made or broke a small library. We printed board reports and conference proceedings (and we still do) because it was hard to travel to the conference itself and the information shared in those three or four days in August was deemed important enough to disseminate widely. Unlike our current electronic system, *PNLA Quarterly* issues were bound and shipped individually until 2009, a missive to the far reaches of our organization. Advertisers saw the benefit of reaching the corners of the Pacific Northwest and printed the ads that paid for part of each issue.

The first issue of *PNLA Quarterly* in October 1936 was subtitled "A Northwest Journal of Current Library Opinion" (Frederiksen, 2009). As Fredrickson notes, *PNLA Quarterly* was a tool for recruitment and communication at its inception, and continues to serve as a mirror and a measure of current issues and interests. Articles took a number of forms in early issues: bibliographies, a time honored library tool; editorial-style 'think pieces'; meeting minutes, especially from regional and statewide conferences; lists of cooperative projects; and budget reports from local libraries.

In the early 2000s *PNLA Quarterly* moved away from a basic newsletter format, in which the reports of representatives from the member states and provinces were reprinted routinely, and instead sought content from the region focused on issues and authored by practitioners in the area. Board communication had by then moved to the PNLA Web site and the member email discussion list, tools obviously not available when the *Quarterly* was first published.

Our current journal model is online and open access. Each article is posted by itself in .pdf file format as well as part of the full issue. Articles are described so that search engines can index and retrieve them individually based on user searches. This is possible because as search engines improve their indexing algorithms, they can more easily discover specific articles based on keyword searches rather than having to hunt within the confines of each journal. With so many journals in each facet of a discipline, it is unsustainable to browse tables of contents for current research. Searching for content based on topic helps researchers narrow the field of information that they must sift through to find relevant content. Journal publishers optimize this process by

ensuring there is relevant metadata, articles are posted as individual .pdf files, and are included on websites that provide an architecture that is friendly toward search engine indexing. As Laakso et al (2011) state in their study of the development of Open Access publishing, "Many [journal websites] are simple static HTML pages linked together without any publishing platform providing back-end automation. Reliable article-level indexing requires journals to provide meta-data in standardized metadata formats, something which in practice necessitates the use of a publishing platform." In this light *PNLA Quarterly* is moving to a publishing platform, Open Journal Systems, that will allow us to attach the correct information to each article (Open Journal Systems, 2015).

Open Access increases awareness about articles and is expected to increase citations of scholarly articles (Suber, 2012 p 16, Gaulé & Maystre, 2011). Citations are widely seen as a measure of an article's importance in the field. Additionally, although librarians are advocates for open access in scholarly publishing, many journals in the library and information science field are still based on traditional subscription models and access to their content is limited to those who can afford it. As Vandegrift and Bolick (2014) state, "approaching library publishing with the understanding that we can shape the future of this field should free librarians to be progressive, innovative, and experimental"(p 110). As editors of *PNLA Quarterly*, we aim to increase exposure of its content and also to ensure that all readers have access to the materials that will benefit their understanding and practice of librarianship. This is especially important in a field that is advocating broadly for open access.

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